

CLEAN COPY OF THE CLAIMS

Claim 1 (Canceled)

A system for determining the location of a radiotelephone from which a call to an emergency telephone number is made, the system comprising:

a mobile switching center;

at least one base station, wherein the at least one base station is in communication with the mobile switching center;

a plurality of wireless transmission antennas, wherein each wireless transmission antenna is in communication with one base station;

a location processor, the location being in communication with the mobile switching center; and

a plurality of radio direction finding devices, one radio direction finding device being installed adjacent a wireless transmission antenna,

wherein the location processor is capable of determining the location of the radiotelephone through triangulation calculation.

Claim 2 (Canceled)

The system of claim 1, wherein the radio direction finding device further comprises

a radio direction finding processor;

a receiver connected to the radio direction finding processor; and

a plurality of antennas, wherein the plurality of antennas are controlled by the radio direction finding processor.

Claim 3 (Canceled)

The system of claim 2, wherein the radio direction finding processor samples

sequentially the plurality of antennas for radio signals.

Claim 4 (Canceled)

The system of claim 1, wherein the mobile switching center communicates the Information related to an emergency radio signal to the location processor.

Claim 5 (Canceled)

The system of claim 1, wherein the plurality of wireless transmission antennas use CDMA technology.

Claim 6 (Canceled)

The system of claim 1, wherein the plurality of wireless transmission antennas use TDMA technology.

Claim 7 (Canceled)

The system of claim 1, wherein the plurality of wireless transmission antennas use FDMA technology.

Claim 8 (Canceled)

The system if claim 1, wherein the plurality of wireless transmission antennas use GSM technology.

Claim 9 (Canceled)

A method for determining the location of a radiotelephone from which a call to an emergency telephone number is made, the method comprising:
receiving radio signal information related to an emergency call from a mobile switching center;
receiving a location request from a mobile switching center;
sending radio signal information to a plurality of radio direction finding devices;

receiving angular information from at least two radio direction finding devices;
employing a triangulation method to calculate the location of the radiotelephone; and
transmitting information about the location to the mobile switching center.

Claim 10 (Canceled)

The method of claim 9, wherein the radio signal information includes radio frequency.

Claim 11 (Canceled)

The method of claim 9, wherein the radio signal information includes a special code.

Claim 12 (Canceled)

The method of claim 9, wherein the radio signal information includes a time slot information.

Claim 13 (Canceled)

The method of claim 9 further comprising translating the location of the radiotelephone into a street address.

Claim 14 (Canceled)

The method of claim 9, wherein each radio direction finding device is installed adjacent one wireless transmission antenna.

Claim 15 (Canceled)

The method of claim 14, wherein the step of employing a triangulation method further comprises obtaining geographical location information for the wireless transmission antennas associated with the at least two radio direction finding devices, and determining geographical coordinates of the location of the radiotelephone.

Claim 16 (Canceled)

The method of claim 15, wherein the step of employing a triangulation method further comprises determining a best pair of geographical coordinates by averaging geographical coordinates.

Claim 17 (New)

A method for determining the location of a radio telephone device, said method comprising the steps of:

uniquely assigning a certain destination telephone number to a particular predetermined public safety answering point;

receiving a telephone call from said radiotelephone, said telephone call being directed to and uniquely identifying said destination telephone number;

identifying said destination telephone number from said received telephone call;

providing a first and a second radio finding device;

only after identifying said destination telephone number, causing said first and second radio finding devices to attempt to respectively determine the location of said radiotelephone device by use of signal angle information and, upon respectively determining said location, respectively providing location information;

determining whether both said first and said second radio finding devices respectively provided location information;

determining said location of said radiotelephone device only if said first and said second radio finding devices each respectively generate location information; and

communicating said determined location to said public safety answering point.

Claim 18 (New)

A method for determining the location of a radiotelephone device, said method comprising the steps of:

uniquely assigning a certain destination telephone number to a particular predefined public safety answering point;

receiving a telephone call from said radio telephone, said telephone call being directed to said destination telephone number;

identifying said destination telephone number from said received telephone call;

providing at least three radio finding devices;

only after identifying said destination telephone number, causing said at least three radio finding devices to attempt to respectively determine the location of said radiotelephone device by use of angle information and, upon respectively determining said location, respectively providing location information;

determining whether at least two of said radio finding devices have respectively provided location information;

determining said location of said radio telephone device only if at least two of said at least three radio finding devices have respectively provided location information;

identifying each of said radio finding devices which have respectively provided location information;

creating unique pairs of said radio finding devices which have respectively provided location information;

using a triangulation process on the respectively generated location information from each of said created unique pairs of said radio finding devices, thereby creating a single location for each of said unique pairs of said radio finding devices;

fitting each single location for each of said unique pairs of said radio finding devices, thereby calculating said location of said radio telephone device; and

communicating said calculated location to said particular predefined public safety answering point.

Claim 19 (New)

A method for determining the location of a radiotelephone device, said method comprising the steps of:

uniquely assigning a certain destination telephone member to a particular predefined public safety answering point;

receiving a telephone call from said radio telephone, said telephone call being directed to said destination telephone number;

identifying said destination telephone number from said received telephone call;

providing at least three radio finding devices;

only after identifying said destination telephone member, causing said at least three radio finding devices to attempt to respectively determinate the location of said radiotelephone device by use of angle information and, upon respectively determining said location, respectively providing location information only if the respective signal angle information is greater than zero degrees;

determining whether at least two of said three radio finding devices have respectively provided location information;

determining said location of said radio telephone device only if at least two of said at least three radio finding devices have respectively provided location information;

creating unique pairs of said radio finding devices which have respectively provided location information;

for each of said unique pairs of radio finding devices, using a triangulation process to create a single location for each of said unique pairs of radio frequency devices, wherein said triangulation process uses the distance between said unique pair of radio frequency devices and the distance between one of said pair of radiofrequency devices and the particular predefined public safety answering point to provide the single location for said unique pair of radio frequency devices;

determining whether one of said single locations is far from the other locations;

discarding said one of said single locations only of said one of said single locations is far from the other locations;

fitting all remaining locations to calculate a location of said radiotelephone device; and

communicating said calculated location of said radiotelephone device to said particular predefined public safety answering point.